

# Biology Buzz



December 2010

Issue 4

## Notes & News from the Biology Department

Welcome to the 2010-2011 edition of the *Biology Buzz*. The department saw several important changes recently including the arrivals, departures, and internal moves of faculty. During the summer of 2010, Dr. Warren Hauk completed his term as department chair and Dr. Jessica Rettig began her term. If you come to Talbot Hall looking for Dr. Hauk, he moved into an office on the 5<sup>th</sup> floor, while Dr. Rettig moved into the Chair's Office on the 2<sup>nd</sup> floor. Others also moved this summer, including Dr. Jeff Thompson, now located on level 4 and Mr. Whitney Stocker (lab preparator & manager of the DUBR), now located on level 2. Visiting Assistant Professor James Marshall headed to Illinois for a tenure-track position at Rockford College (JMarshall@rockford.edu) and Visiting Assistant Professor Caroline Wilson headed to Alaska, and is now a term instructor for University of Alaska Anchorage teaching Human Anatomy & Physiology (afchw@uaa.alaska.edu)



This fall the department welcomed three new colleagues, Dr. Ayana Hinton, Dr. Clare Jen, and Dr. Andrew Stoehr. More details about them are provided on page 2. Among our not-so-new faculty, Dr. Rebecca Homan and Dr. Laura Romano each earned a teaching sabbatical after completing successful tenure reviews last spring. Both are spending the year in Granville conducting research: Rebecca on the ecology of amphibians in vernal pools, and Laura on the evolution and development of skeletons in larval echinoderms. Dr. Tom Schultz also earned a teaching sabbatical following a recent senior review. He is spending his sabbatical in Granville with short trips planned to Australia and Panama to conduct research on the use of color in Odonates.



Following routine, the department hosted an Open House during Big Red Weekend in early October. Current students and their parents attended, as well as alumni ranging from the class of '78 to the class of '09. We hope to see more alumni and parents on future Big Red Weekends.

Denison University  
Samson Talbot Hall  
Granville, OH 43023  
[www.denison.edu/academics/departments/biology](http://www.denison.edu/academics/departments/biology)

E: [biology@denison.edu](mailto:biology@denison.edu)  
P: 740-587-6261  
F: 740-587-5634

The 2010 summer was busy for faculty and students alike. Twenty-three biology students spent 10 weeks on campus working on research projects, while 12 biology faculty hosted these students in their labs. Several biology students participated in research off campus, working in labs at Carnegie Mellon, Colorado State, University of Arizona, Woods Hole Marine Lab, the National Space Science & Technology Center, and at the City of Hope National Medical Center & Beckman Research Institute. Dr. Kristina Mead also worked at Woods Hole this past summer. All of these research students presented research posters in September at Denison's Summer Science Research Symposium. This event allowed students to talk about their research with peers, professors, administrators, and friends of the college. A short feature in the new college website

TheDEN highlights this science research symposium <http://www.denison.edu/theden/2010/09/blinding-with-science/>.

Another story in TheDEN explores the summer research of two biology majors <http://www.denison.edu/theden/2010/10/making-a-splash/>. Providing opportunities for biology majors to participate in research continues to be an important goal for the department. During the 2010-2011 academic year, 17 seniors are conducting senior research projects and each semester approximately 15 other students participate in research through directed or independent studies with faculty.



The biology department also welcomed students and faculty from the Chemistry and Biochemistry Department to Talbot Hall for the 2010-2011 academic year as Ebaugh labs undergoes a major renovation. The 6<sup>th</sup> floor teaching lab and 1.5 teaching labs on the 5<sup>th</sup> floor are dedicated to chemistry for the year. Several lecture spaces are also shared between the two departments and other spaces in Talbot are being used by Chemistry & Biochemistry for faculty research, a chemical stockroom, and an analytical equipment room. Talbot Hall is busier than ever, full of students and faculty!

One exciting feature of late fall has been the success of the Denison women's soccer team. As biology faculty talked with each other, we discovered that many of us knew players on this team. After some quick calculations, we learned that 43% of the team was majoring or minoring in biology! It has been fun to watch this team progress to win the conference championship and then go on to participate in the NCAA Division III Tournament, making it to the Round of 8 before losing on penalty kicks to Otterbein College.



As the biology department wraps up the fall semester and heads into 2011, we wish our students and alumni success in all their endeavors. Please let us know what you've been up to by sending your former professors an email or drop a message into the email-box of the biology chair ([rettig@denison.edu](mailto:rettig@denison.edu)).



## Faculty Newsbriefs

*Please see the biology webpages for details on the work of our faculty.*

**JEFF THOMPSON** was awarded a \$317,852 grant from the **National Institutes of Health**, with funding provided through the American Recovery and Reinvestment Act of 2009 (ARRA). The grant will support Jeff's research investigating the role of DNA packaging "histone" proteins in the repair of DNA damage caused by UV radiation. In addition to funds to cover research expenses, the grant also supports three summer research student positions for each of the next three years.

**JESSICA RETTIG** and **GEOFFREY SMITH** were honored at April's Academic Awards Convocation as the new holders of the college's **Henry Chisholm Chair in the Natural Sciences**. The Chisholm Chair in the Natural Sciences is one of Denison's oldest chairs, having been established in the 1880s. The criteria for holders of this chair include that they be model teachers and scholars who have made substantial contributions to the wider mission of the college.

**ANDREW MCCALL** published "Thirty years of climate change and habitat alteration shift patterns of butterfly diversity," with co-authors in *Proceedings of the National Academies of Science*, 2010, USA 107: 2088-2092. This work was also presented at the *Sixth International Conference on the Biology of Butterflies*, Alberta, Canada in July 2010.

**KRISTINA MEAD** received a New Directions Initiative grant from the GLCA for her proposal **Sex, Gender and the Brain: a novel textbook linking Neuroscience and Women's Studies**. This grant enables Kristina to begin writing an interdisciplinary neuroscience textbook.

**JEFF THOMPSON** & **JESSEN HAVILL** (Computer Science) received a New Directions Initiatives grant from the GLCA for their proposal **Bringing Bioinformatics to Denison**. This grant enables them to develop an interdisciplinary bioinformatics-themed course for Denison.

**GEOFF SMITH** co-authored the book ***Amphibians and Reptiles of Nebraska*** with colleagues from the University of Nebraska-Lincoln and the National University of Colombia. The book was published in June 2010 by Rusty Lizard Press.



Visiting Assistant Professor **Andrew Stoehr** joins us to teach Ecology & Evolution, Animal Behavior, and Ornithology. He received his B.S. in Biology from Indiana University, M.Sc. from Auburn University, and Ph.D. from the University of California, Riverside. His research interests focus on the ecology, evolution and development of coloration in animals, particularly birds and butterflies.

Assistant Professor **Clare Jen, Biology & Women's Studies** is in a joint appointment with the Women's Studies Program. She earned her B.S. from Duke University, in Biology and Women's Studies, and Ph.D. from University of Maryland-College Park in Women's Studies. Her research area is in feminist studies of science and technology with a focus on transnational discourses of gender, race, and public health. Her courses include Feminist Science Studies, Issues in Feminism, and Biopolitics of Women's Health.



Assistant Professor **Ayana Hinton** joins us with expertise in cellular and molecular biology. She earned a B.S.E. at the University of Michigan and Ph.D. at Wayne State University. Ayana uses both yeast and mammalian cells to study the assembly and targeting of Vasculature H<sup>+</sup>-ATPases with a focus on which protein-protein interactions are essential for proper assembly and cellular localization of large protein complexes. She teaches Introduction to the Science of Biology (BIOL 150), Cell and Molecular Biology, and Eukaryotic Cell Biology.





## Faculty Newsbriefs *cont.*

**TOM SCHULTZ**, recently attended the meeting of the International Society of Behavioral Ecologists in Perth, Australia, where he presented a talk entitled "Structural colors provide a dynamic sexual signal in the giant helicopter damselfly, *Megaloprepus caerulatus*". Prior to the meeting, he was invited to participate in a behavioral ecology workshop at Macquarie University in Sydney.

**ANDREW MCCALL** co-authored "Can optimal defense theory be used to predict the distribution of plant chemical defenses?" with J.A. Fordyce in *Journal of Ecology* 98: 985-992 and published "Does dose-dependent petal damage affect pollen limitation in a California annual plant?" *Botany* 88: 601-606. Research from the first article was presented at the 95th Ecological Society of America Annual Meeting, Pittsburgh, PA. in August 2010. At this conference Andy also co-organized a workshop, "Arriving, Surviving, and Thriving as an Ecological Educator/Scientist at a Primarily Undergraduate Institution."

**ERIN R. MCMULLIN** presented a research paper: **E.R. McMullin**, K. Nelson, C.R. Fisher, S.W. Schaeffer. 2010 "Gene flow and population structure of two deep sea tubeworms, *Lamellibrachia luymesii* and *Seepiophila jonesii*, from the hydrocarbon seep communities in the Gulf of Mexico." The paper, currently in press, will be available online in [Deep Sea Research II](#).

**JEFF THOMPSON** presented a research poster this summer at the 2010 Yeast Genetics and Molecular Biology Meeting in Vancouver, British Columbia entitled: "Regulation of UV repair via sister chromatid exchange by distinct histone H3 K79 methylation states in *Saccharomyces cerevisiae*". The poster was co-authored with Denison graduates **Alyssa Rossodivita '10** and **Megan Ansbro '09**.

**GEOFF SMITH** and a colleague from the Universidad Nacional Autónoma de México recently published a paper entitled "Observations of amplexus and oviposition in *Ollotis* [*Bufo*] *occidentalis* in the Río Salado, Puebla, México" in the March 2010 issue of *IRCF Reptiles and Amphibians*.



## Students & Research *cont.*

**Kaitlin Costello '10** and **Grant Adams '11** (above) at the Butler University Undergraduate Research Conference on April 6, 2010. Kaitlin presented a talk entitled, "Sequencing the sodium voltage gated ion channel from the copepod, *Calanus finmarchicus*" and Grant presented a poster entitled, "Myelin and node characterization in a Caridean shrimp." **Christopher Wessner '10** & Kaitlin joined former Visiting Assistant Professor, Caroline Wilson who was also in attendance.

**Brett Castano '08**, **Shawn Miely '09**, and Geoff Smith and Jessica Rettig published a paper entitled "Interactive effects of food availability and temperature on wood frog (*Rana sylvatica*) tadpoles" in the September 2010 issue of *The Herpetological Journal*. This paper is based on a project Brett and Shawn completed in Geoff and Jessica's Vertebrate Zoology course.

**J. Bury '10**, **J. Rotramel '10**, **L. Keny '10**, **A. Boemi '10**, **K. Buttermore '10**, **T. Lan '11**, **H. Robertson '10**, **C. Splawski '10**, and Andrew McCall presented "Does *Alliaria petiolata* or its extracts affect invertebrate abundance or behavior?" at the Ohio Invasive Plant Council Conference in February 2010. This paper was the result of a lab project in Plant Ecology, BIOL 321. Two of Andy McCall's students presented their senior research at the 2010 Midwest Ecology and Evolution Conference with Andy as a co-author: **H. Robertson '10** "The effects of leaf damage on petal and pollen defense in wild radish, *Raphanus sativus*" and **C. Splawski '10** "Abiotic effects on species richness and diversity in a newly-created tallgrass prairie."

Erin McMullin, Katelyn Bonko, **Sarah Hansen '12** and Jay Hemdal. presented "Genetic diversity and the effective population size of captive populations of *Haplochromis piceatus*, a critically endangered Lake Victoria cichlid" at the annual meeting of the Ecological Society of America (ESA) in Pittsburgh PA, August 2010.

**Samantha Rumschlag '10** presented her senior research, "A Pilot study examining the role of conspecific chemical cues affecting juvenile American Toad *Bufo americanus* orientation behavior" at the annual meeting of the Ecological Society of America (ESA) in Pittsburgh PA, August 2010. Samantha conducted her research as a member of Rebecca Homan's research group; **Tian Lan '11**, co-author.

## Students & Research

**Jessie Hogue-Morgenstern '10** and J. Marshall. 2010. The relationship of migrant avian herbivory and honeysuckle (*Lonicera*) management in the fall. 91st meeting of the Wilson Ornithological Society. May 21-23, 2010. Geneva, NY.

**Rachel Kushner '12**, C. Conley, and J.S. Marshall. 2010. Patterns of interference competition in overwintering central Ohio birds. 91st meeting of the Wilson Ornithological Society. May 21-23, 2010. Geneva, NY.



## Where Are They Now?

- ☺ **Jamie Kauffman '09** began vet school in Ireland at the University College Dublin. She plans to go into large animal veterinary medicine.
- ☺ **Megan Fleming '10** is living in New York City attending grad school at Columbia University. In one of her classes, Sustainability Science, she's made several presentations of primary literature articles and reports feeling comfortable with making presentations because of all the presentations she made in biology classes at Denison.
- ☺ **Kate Seymour '07** a student in the KU School of Medicine, has received a Physicians of Tomorrow \$10,000 scholarship from the American Medical Association Foundation.
- ☺ **Katie Merva '08**, Environmental Science Teacher & Recycling Program Coordinator for one of twenty Eco-Schools in the United States sponsored by the National Wildlife Federation was interviewed on Iowa Public Radio's show "The Exchange" focusing on the benefits of time spent outdoors. The interview featured a VP from the NWF including a teacher involved with Eco-Schools. About 22 minutes into the podcast listen for her interview found at the following link: [http://iowapublicradio.org/single\\_story.php?storyid=1124](http://iowapublicradio.org/single_story.php?storyid=1124)
- ☺ **Patrick J. Thomas '90** received his J.D. from Case Western Reserve School of Law in 2001. He is an assistant prosecuting attorney in the Major Trial Unit in Cuyahoga County, Cleveland, Ohio.
- ☺ **Bob Yoder '73**, a community activist. You can find his "Redmond Neighborhood Blog" at <http://redmondblog.org>
- ☺ **Bob & JoAnn Taylor Lister '51 & '53** are raising trees in WV mountains on 90 acres, trying to keep the air clean and increase water protection and biomass.
- ☺ *"I just opened the latest (and my first) Biology Buzz to discover a picture of the biology faculty and staff...and there were women...more women than men. I graduated in 1966. Although I had wonderful biology professors at Denison, there were no women. I was told by my advisor, after doing poorly on a test, "Don't worry. In two years when you are changing diapers, this won't be important." I went on to earn a Ph.D. in Biology from Lehigh University. I was the only woman in the department and there were no female professors. I met my first woman scientist when I was an assistant professor at Polytechnic Institute of New York. She was the only woman on the faculty. Oh, it would have been so wonderful to have had some female mentors along the way. Today's students are so lucky to have both sexes to serve as mentors and role models. Thank you for the update showing the progress at Denison."* - **Judy Janssen Brook '66**

**Denison University**  
**Department of Biology**  
Samson Talbot Hall

350 Ridge Road  
Granville, OH 43023

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US Postage Paid  
Granville, OH  
43023  
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## Addressee

Street Address, Suite 555  
City, State 55555